

Work Order ID 59367

Wednesday, June 02, 2010 1:18:30 PM

Page 1

Item ID: D350-636-011

Accept

Revision ID:

Item Name: Skidtube LH

Start Date: 6/2/2010 Start Qty: 1.00

Required Date: 6/9/2010 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2750

Rev F

100



DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy blue file and type labels per PPP D350-636-011 CHG 005

0.00

0.00

8/10/23

HJ for BG 10/07/22

B59367

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DCA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
Number Insp.
Stamp

110



Skidtubes

Skidtubes

Skidtubes

Memo

1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end

2-Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details).Drill using drill Jig DT8150 & DT8863.

3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8863 and cut as per dwg D2750.Deburr.

4- Drill fwd step holes using DT9616. Ensure proper positioning.

5- drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500"

6- locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting

7-Open up holes for Detail B to 0.375" (4 holes per side)and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750 .Open up holes for ground handling and detail C to 0.500" (8 holes per side)

8-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

9-Open up holes of Detail A to 0.297" (total of 2 holes per side)

10-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004

A/R ☐ ☐ Aluminum Rod☐ M114242

BE 10/07/01

BE 10/07/05

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Grind welds flush as per Dwg D2750

Q.m 10-07-30

12- Scribe batch# inside per dwg D2750

BE 10-07-05

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8/06/10

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8/10/10

(*)

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				1	11/07/16		
150 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							

①

BE 10/07/07

W/O:		WORK ORDER CHANGES						
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Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291 batch: 01113519 ☐☐☐
exp. date: 10/11/12

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R ☐☐☐ Aluminum Rod batch: M114242

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

410717

BE 10/07/12
BE 10/07/13

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Stop



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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D2750

BE 10/07/13

12-Deburr holes

BE 10/07/13

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 10/07/13

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 10/07/13

(11)

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____




QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Setup Start

Stop

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  HandFinish	Pressure Wash per QSI005 4.3	0.00							
	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								
200  Powdercoat	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
	Memo	0.00							
Powder Coating	START TIME: 8:00 OVEN TEMPERATURE: 322° FINISH TIME: 9:20								
210  QC	QC3- Inspect Part Finish	0.00							
	Memo	0.00							
Quality Control	Inspect for foreign object per QSI 024								

W/O:		WORK ORDER CHANGES						
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Required Date: 6/9/2010 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220



HandFinish

Hand Finishing

HandFinishing

Memo

✓ 1- Install inserts as per Dwg D2750

0.00

Handwritten: 10/07/22

0.00

230



HandFinish

Hand Finishing

HandFinishing

Memo

✓ 1-Inspect for Foreign Objects

✓ 2-Spray inside of tube with "LPS-3" batch: N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: 11115114

EXP DATE: 11/01

✓ 4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube
A/R 55-o'ring lube batch: 1114189

✓ 5-Coat all exposed fasteners with "LPS Procyon" batch: 104251

0.00

Handwritten: 10/07/22

0.00

Handwritten: 1

Handwritten: Ø

Handwritten: XL

Handwritten: Ø

W/O:		WORK ORDER CHANGES						
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Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Setup Start

Stop

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

240 QC5- Inspect part completeness to step on W/O 0.00



QC

Memo

Quality Control

0.00

10.01, 22 (1)

250 Pick Kit 0.00



Packaging

Memo

Packaging

0.00

22 (1)

260 QC4- 100% Inspect kits for completeness 0.00



QC

Memo

Quality Control

0.00

8.10.10/23

*****ensure antiseize is on AN8C21A bolts*****

40

W/O:		WORK ORDER CHANGES						
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270



Packaging

Packaging

Packaging

Memo

Package as per PPP D350-636-011

0.00

0.00

Rev H

10-7-23

280



QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

10/07/26

ME

10-7-23

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

Work Order ID: 59367

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07-13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

230

Each

231.0000

8

8



O-Ring, 205 Skidtube

Location

Loc Qty

Loc Code

FP

231

B59358

55546

19

58191

212

D2744

Manufactured No

110

Each

13.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG

13

51922

13

D2600-3-BENT

Manufactured No

110

Each

13.0000

1

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

13

58903

13

D2743

Manufactured No

160

Each

57.0000

8

8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

57

50281

10

52310

24

57953

23

B59111

B

BE 10/07/12

W/O:		WORK ORDER CHANGES					
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 IPP Rev: J 06-03-23 As per Rev D JLM
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 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160 Each

7.0000

1

1



350 I Beam



360225 1 11/17/17

Location

Loc Qty

Loc Code

LG

7

57948

1

58213

1

58904

5

D3490-3

Manufactured No

160 Each

66.0000

4

4



Cross Bolt Spacer



Location

Loc Qty

Loc Code

LG

66

57918

6

59229

60

D3490-1

Manufactured No

160 Each

56.0000

4

4



Cross Bolt Spacer



Location

Loc Qty

Loc Code

LG

56

59228

56

ALS4-1032-225

Purchased No

220 Each

7,062.000

38

38



Insert



Location

Loc Qty

Loc Code

PK011

7062

110768

7062

Y38 11 10/07/21

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 IPP Rev:K 06-07.13 As per dsi9343 EC
 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D3492-041 Manufactured No 230 Each 94.0000 8 8



Plug Assembly

Location	Loc Qty	Loc Code
FP013	94	359114
57915	30	
58180	60	
59189	4	



xs 10/07/21

D3793-3 Manufactured No 230 Each 27.0000 1 1



Wearshoe

Location	Loc Qty	Loc Code
FP18	16	
59152	16	
FP19	11	
57947	11	



xs 10/07/21

AN8C35A Purchased No 230 Each 56.0000 1 1



BOLT

Location	Loc Qty	Loc Code
FP	6	
110847	6	
ST346	50	
14442	50	



xs 10/07/21

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 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D3793-1 Manufactured No 230 Each

10.0000

1 1



Wearshoe

Location

Loc Qty

Loc Code

FP18 10
 56300 1
 57945 9

* B59151

X1 J1 10/07/21

D3488-041 Manufactured No 230 Each

29.0000

1 1



Blade Fitting Assembly, LH

Location

Loc Qty

Loc Code

FP 19
 53915 19
 FP007 10
 56052 10

X1 J1 10/07/21

D3794-3 Manufactured No 230 Each

14.0000

1 1



Gasket

Location

Loc Qty

Loc Code

FP18 14
 56066 14

B59153

X1 J1 10/07/21

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

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Page 5

Work Order ID: 59367

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07-13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

AN6C44A Purchased No 230 Each



BOLT

151.0000 4 4



Location	Loc Qty
FG	2
103964	2
ST344	149
111649	2
114455	47
114653	50
114784	50

Loc Code

MS21083C8 Purchased No 230 Each



NUT

41.0000 1 1



Location	Loc Qty
ST303	41
113845	11
114523	30

Loc Code

D3536-25 Manufactured No 230 Each



Gasket

32.0000 1 1



Location	Loc Qty
FP12	32
57944	6
58820	26

Loc Code

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Page 5

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 6

Work Order ID: 59367



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 6/2/2010

Required Date: 6/9/2010

Comments:

IPP Rev: I 02.09.25 Rearranged procedure steps KJ

IPP Rev: J 06-03-23 As per Rev D JLM

IPP Rev: K 06-07-13 As per dsi9343 EC

IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3631-1

Manufactured No

230

Each

206.0000

8

8



Washer

Location

Loc Qty

Loc Code

ST076

206

1354388

x8

M 10/16/22

52693

206

D3791-1

Manufactured No

230

Each

5.0000

1

1



Wearplate

Location

Loc Qty

Loc Code

FP17

5

43 59626

x1

M 10/07/22

56299

5

AN960C10L

NAS1149C0332
R

Purchased

No

230

Each

0.0000

38

38



washer

D2745

Manufactured No

230

Each

146.0000

8

8



Bushing

Location

Loc Qty

Loc Code

ST023

146

1359112

x8

M 10/07/22

52311

69

57914

77

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Page 6

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

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Page 7

Work Order ID: 59367

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07-13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 230 Each



Bolt

923.0000 34 34



Location	Loc Qty
ST350	825
114330	125
114523	200
114808	500
ST351	98
113121	10
114108	45
114181	43

Loc Code

1115015

X34 JH 10/07/22

D3537-1 Manufactured No 230 Each



Wearpad

11.0000 3 3



Location	Loc Qty
FP	1
55465	1
FP17	10
57713	10

Loc Code

1359593

X3 JH 10/07/22

AN960C816L Purchased No 230 Each



WASHER

106.0000 1 1



Location	Loc Qty
ST348	106
110584	100
111424	6

Loc Code

X1 JH 10/07/22

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Page 7

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

Wednesday, June 02, 2010 1:18:36 PM

Page 8

Work Order ID: 59367

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D3492-043

Manufactured No

230

Each

57.0000

8

8



Plug Assembly

Location

Loc Qty

Loc Code

FP

2

1359421

54682

2

FP013

55

57916

51

59190

4

AN3C6A

Purchased No

230

Each

565.0000

4

4



BOLT

Location

Loc Qty

Loc Code

ST351

565

11982

565

NAS1611-013

Purchased No

230

Each

219.0000

8

8



O-RING

Location

Loc Qty

Loc Code

FP

219

114451

181

114496

38

D3535-25

Manufactured No

230

Each

13.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP18

13

1359150

57943

13

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DCA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 9

Work Order ID: 59367



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Comments: IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D3794-1 Manufactured No 230 Each

32.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP010

26

1359622

57942

26

FP014

6

57537

6

MS21043-6

Purchased No

230

Each

826.0000

4

4



NUT

Location

Loc Qty

Loc Code

ST301

826

12314

826

D3493-1

Manufactured No

260

Each

33.0000

2

2



Washer

Location

Loc Qty

Loc Code

ST065

33

57825

33

MS21083C8

Purchased No

260

Each

41.0000

2

2



NUT

Location

Loc Qty

Loc Code

ST303

41

113845

11

114523

30

mtt

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Page 9

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

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Page 10

Work Order ID: 59367

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased No 260 Each

111.0000

2

2

BOLT

Location

Loc Qty

ST345	111
111605	21
113558	50
114653	40

Loc Code

AN960C816L

Purchased No 260 Each

106.0000

1

2

WASHER

Location

Loc Qty

ST348	106
110584	100
111424	6

Loc Code

D3672-1

Manufactured No 230 Each

1,367.000

4

4

Phenolic Washer

Location

Loc Qty

ST077	1367
51674	367
52505	1000

Loc Code

D2741

Manufactured No 260 Each

27.0000

1

1

Blade, 350 Skidtube

Location

Loc Qty

ST466	27
55905	27

Loc Code

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 11

Work Order ID: 59367

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

S D3532-1
 Spacer
 Manufactured No 260 Each 25.0000



2

2

59426

LO

S D3672-13
 Phenolic Washer
 Purchased No 260 Each 894.0000



2

2

6/10/2010 (1)

Location

Loc Qty

ST068

25

52321

25

Location

Loc Qty

ST077

894

54363

894

Loc Code

Loc Code

Loc Code

54363

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Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1	1			D2750-1	SKIDTUBE WELDMENT, LH
		1		D2750-2	SKIDTUBE WELDMENT, RH
			1	D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1	1	1	1	D3488-041	BLADE FITTING, LH
4	4	4	4	D3488-042	BLADE FITTING, RH
4	4			D3490-1	SPACER
		4	4	D3490-3	SPACER
8	8	8	8	D3490-5	SPACER
8	8			D3492-041	PLUG ASSEMBLY
		8	8	D3492-043	PLUG ASSEMBLY
1	1	1	1	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
3	3	3	3	D3536-25	GASKET
8	8	8	8	D3631-1	WEARPAD
1	1	1	1	D3791-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
- POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 59367
BFI0-6-02

RELEASED
6-27-72

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3536-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 06-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.07.16		

DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO.
D2750

TITLE
350 SKIDTUBE ASSEMBLY

SCALE
NTS

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WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
08.09.22.111

DESIGN	PM	DART AEROSPACE USA, INC.	
DRAWN	PM	PORT HADLOCK, WA	
CHECKED	SA	DRAWING NO.	REV. F
MFG. APPR.	SA	D2750	SHEET 2 OF 11
APPROVED	MP	TITLE	SCALE
DE APPR.	MP	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.</small> <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

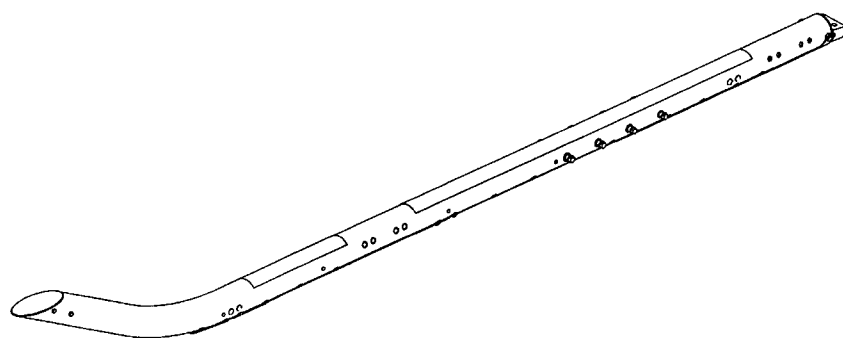
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

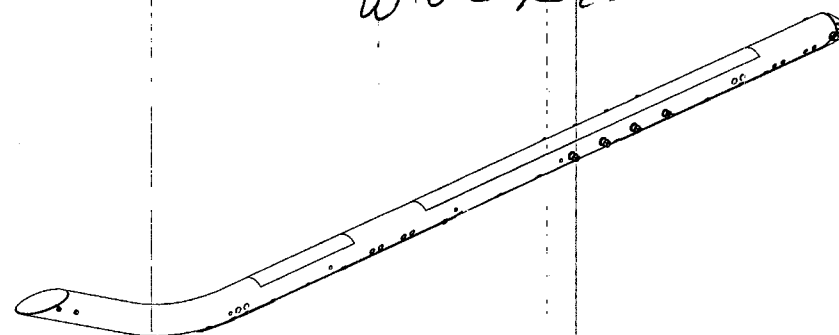
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
68-09-22-1-11

DESIGN	PA	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	PA		
CHECKED	PA	DRAWING NO.	REV. F
MFG. APPR.	PA	D2750	SHEET 3 OF 11
APPROVED	PA	TITLE	SCALE
DE APPR.	PA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1988 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

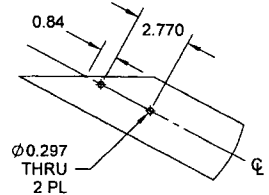
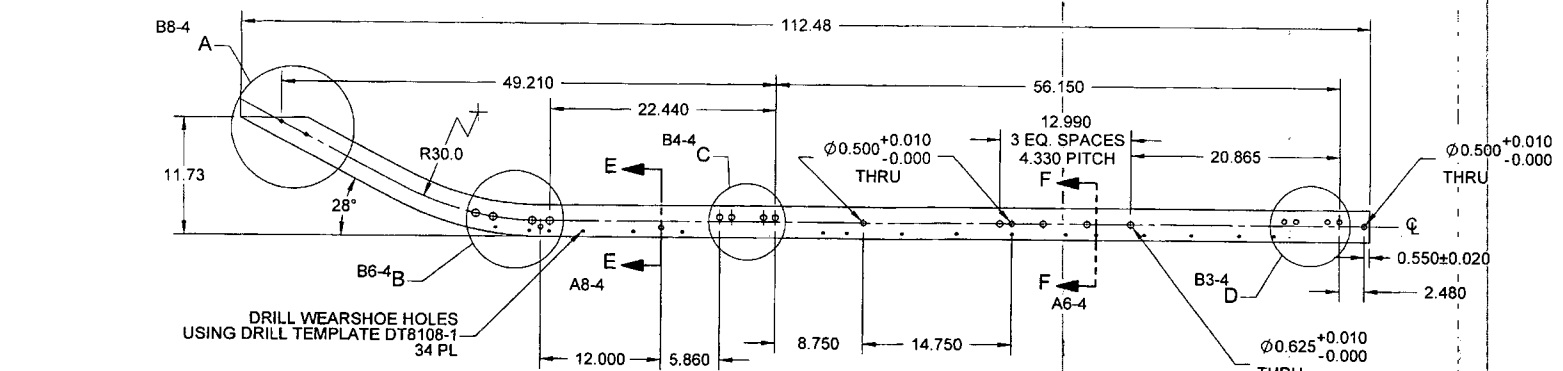
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

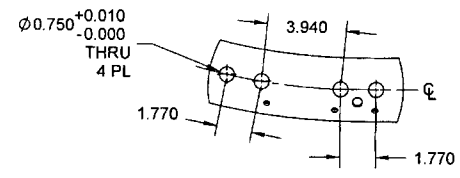
D2750-1 LH SKIDTUBE

W/059367

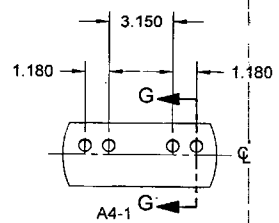
RELEASED



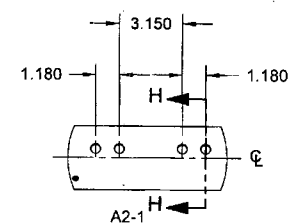
DETAIL A
SCALE 2X



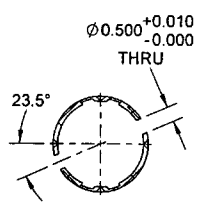
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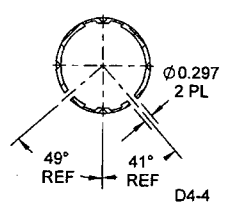
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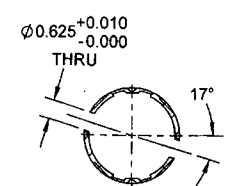
DETAIL D
SCALE 2X



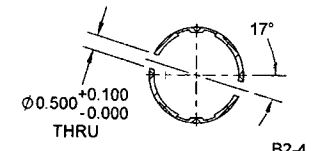
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

DESIGN	PM	DART AEROSPACE USA, INC.	
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CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 4 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

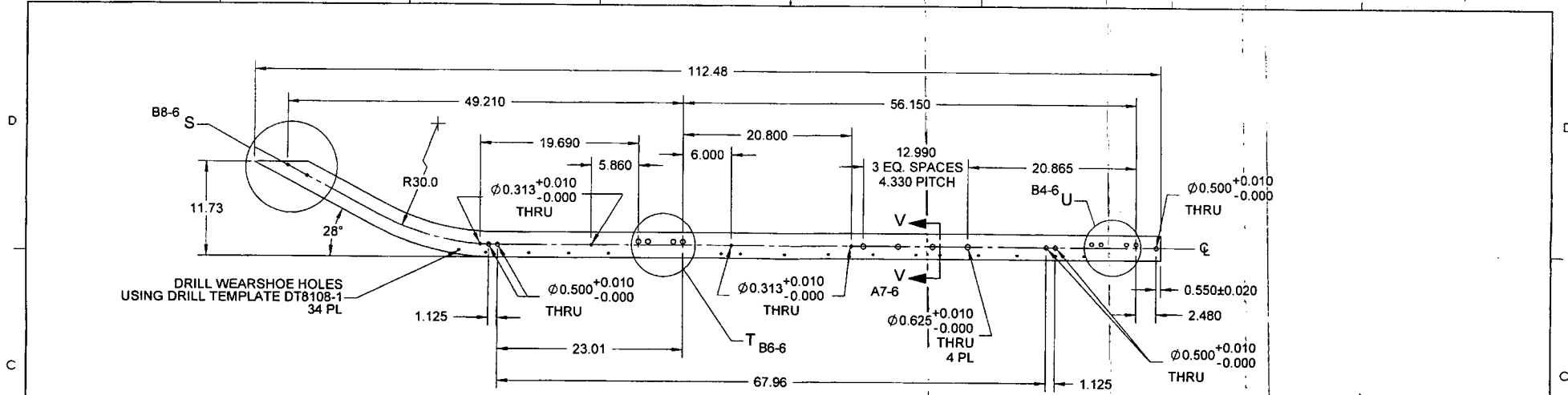
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

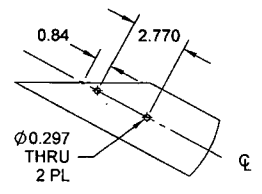
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

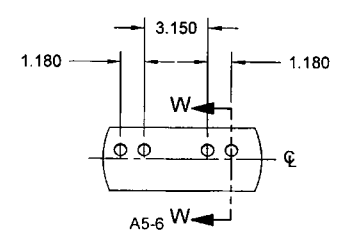
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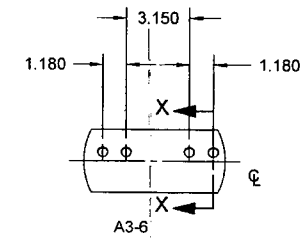
D2750-3 LH SKIDTUBE



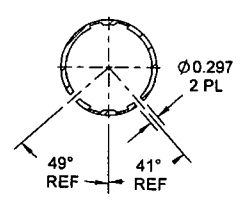
DETAIL S
D8-6
SCALE 2X



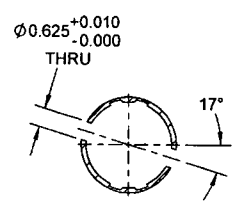
DETAIL T
C5-6
SCALE 2X



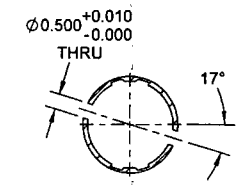
DETAIL U
D3-6
SCALE 2X



SECTION V-V
C4-6
SCALE 3X, 17 PL



SECTION W-W
B6-6
SCALE 3X, 4 PL



SECTION X-X
B4-6
SCALE 3X, 4 PL

WFO 59367

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08-27-11

DESIGN		DART AEROSPACE USA, INC.	
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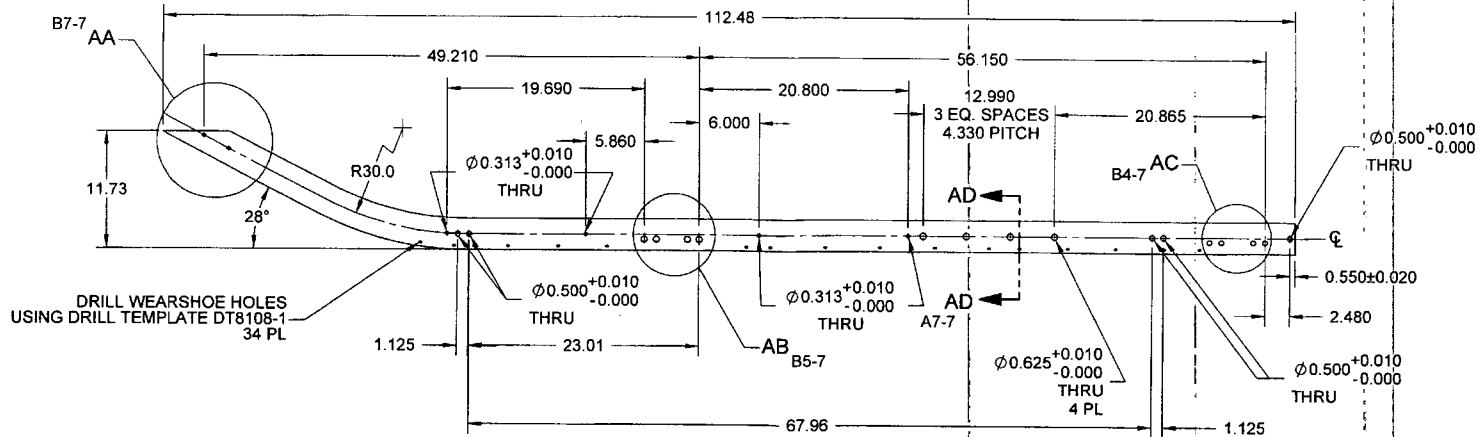
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

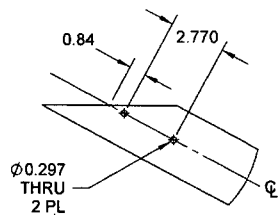
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

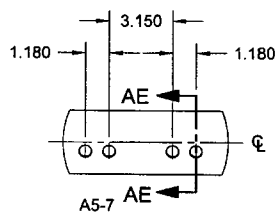
NOTE: Date & initial all entries



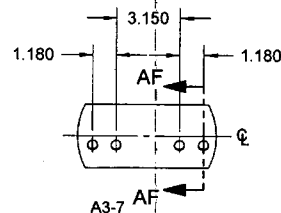
D2750-4 RH SKIDTUBE



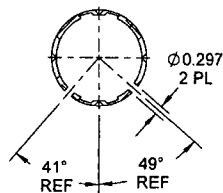
DETAIL AA
SCALE 2X



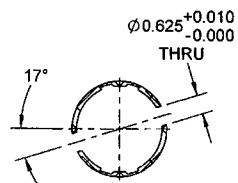
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SCALE 2X



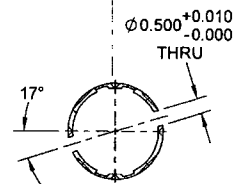
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

w/0593e7

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08-09-2010

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MFG. APPR.	PA	D2750	SHEET 7 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

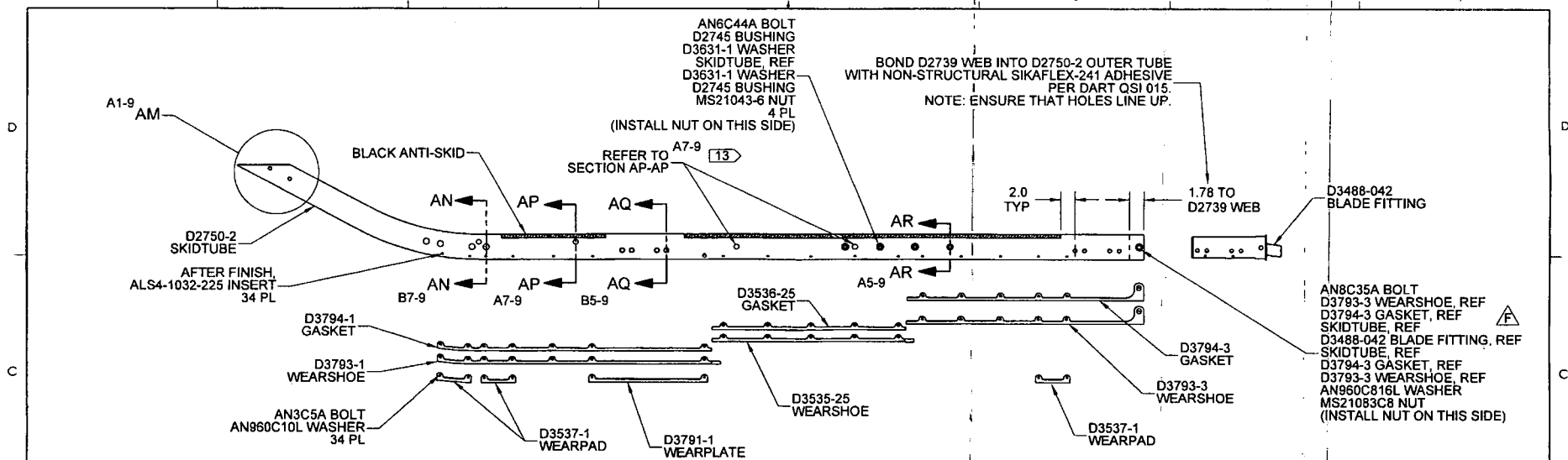
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

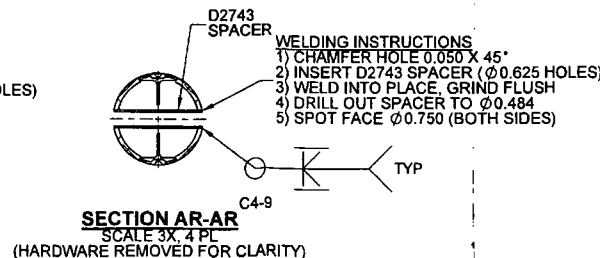
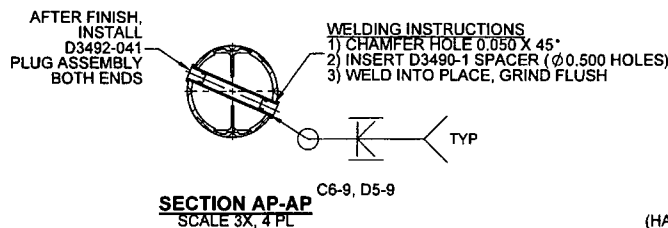
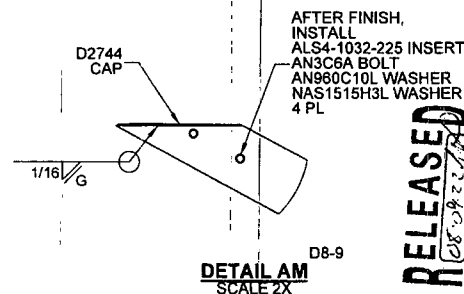
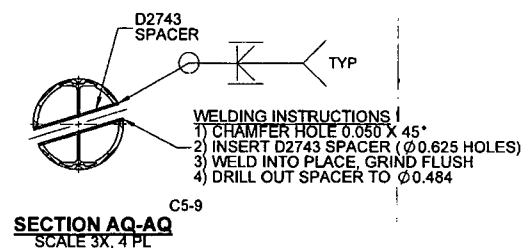
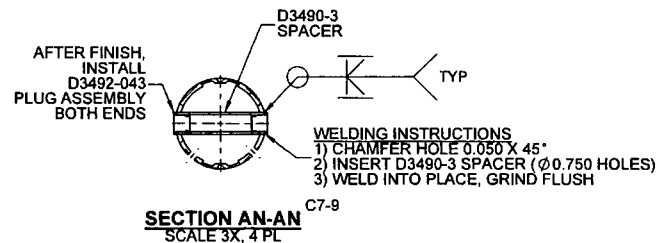
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8 7 6 5 4 3 2 1



D2750-042 350 SKIDTUBE ASSEMBLY, RH

w/o 57397



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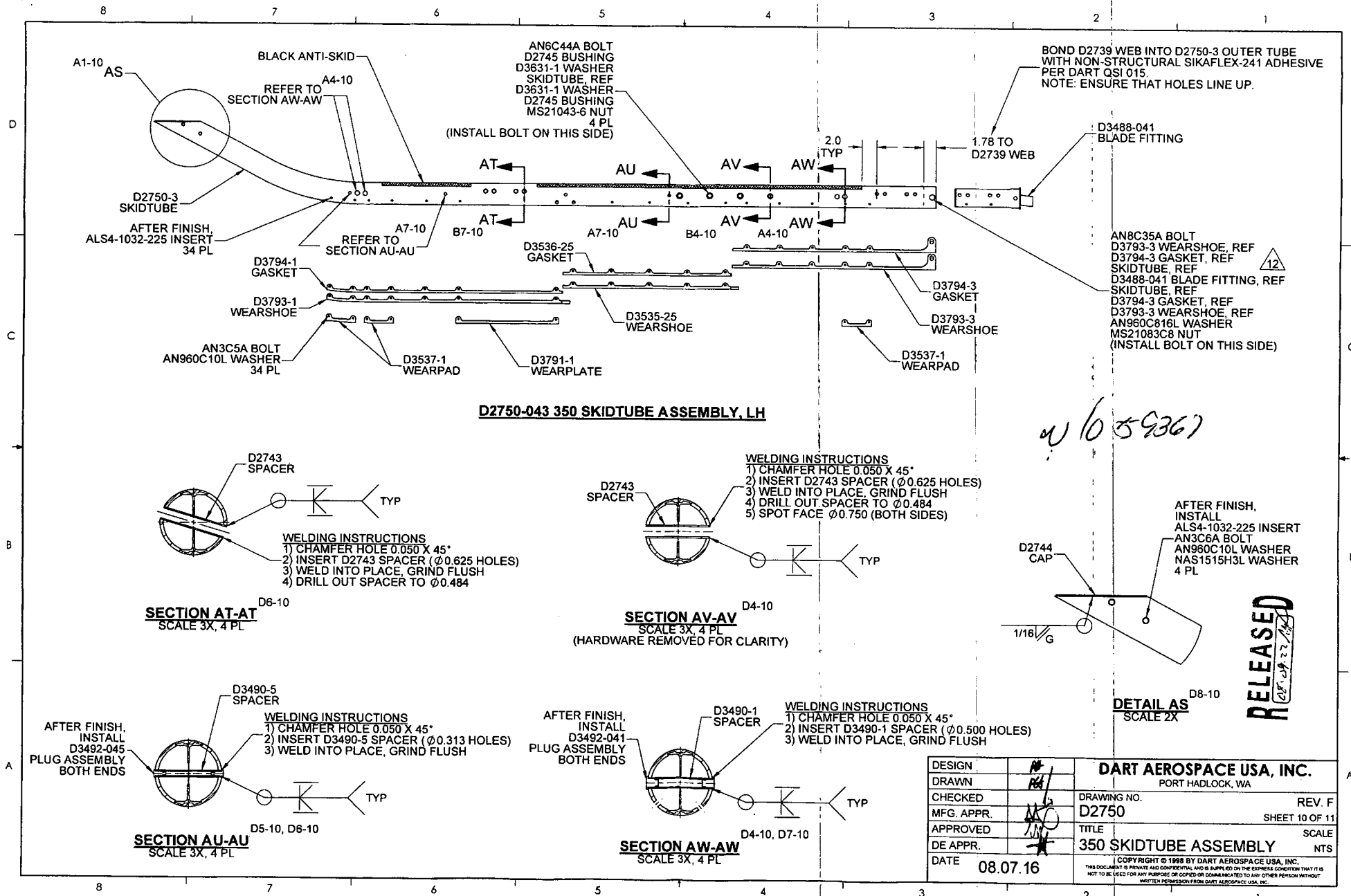
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

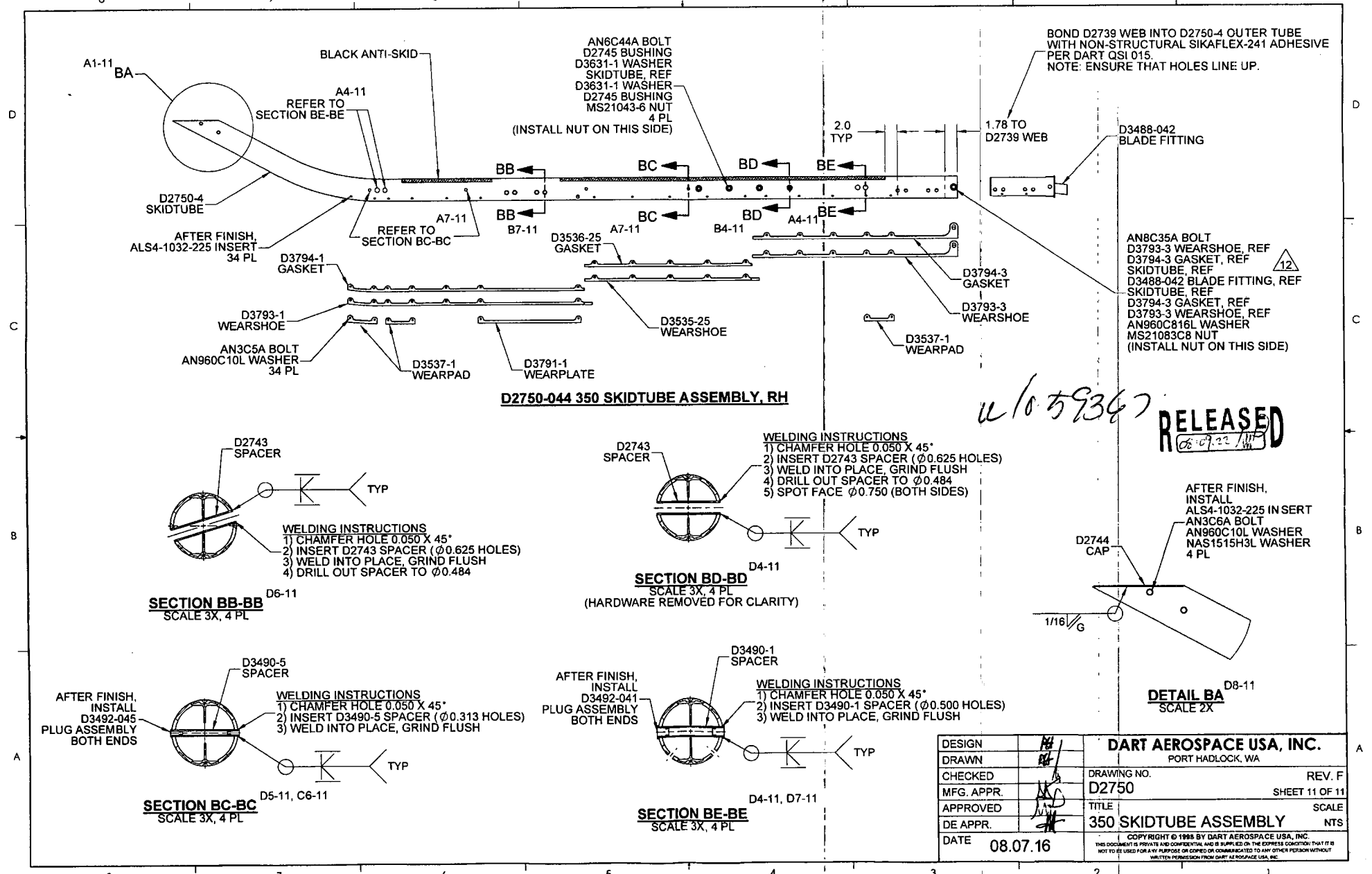
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

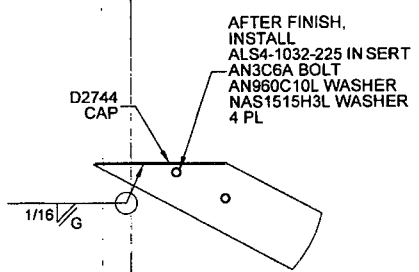
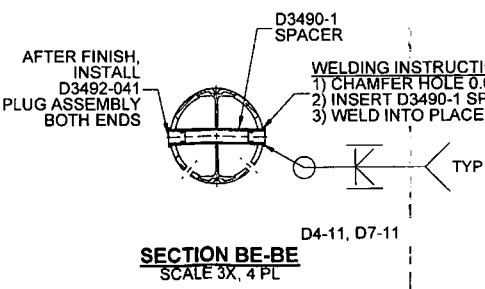
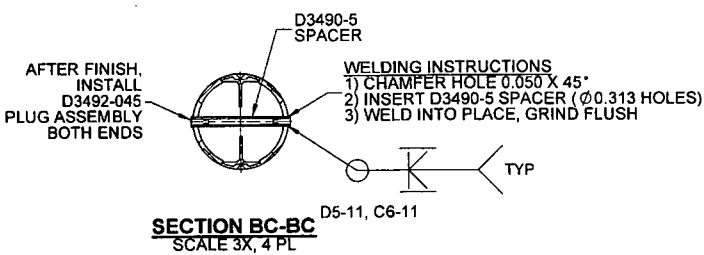
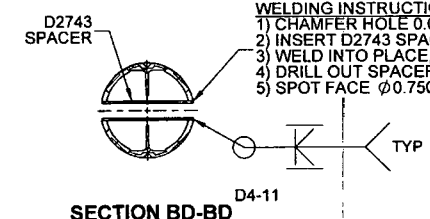
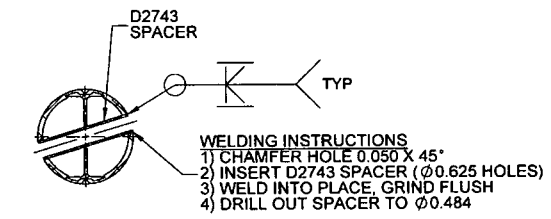
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



D2750-044 350 SKIDTUBE ASSEMBLY, RH



DESIGN	11	DART AEROSPACE USA, INC.	
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u1059367
RELEASED
06-07-22

WORK ORDER CHANGES

PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 234

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 59818
Part number: D350-626-011
Description: 350 skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Aluminium
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier P. D. A. Date of Test Coupon 10-06-21

Welder Barclay Elliott Date of Test Coupon 10-06-21

The above named individual is qualified in accordance with AWS D17.1.2001 to weld